

Translation

PATENT COOPERATION TREATY

PCT/JP2003/016542



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference E05111USPCT	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/016542	International filing date (day/month/year) 24 December 2003 (24.12.2003)	Priority date (day/month/year) 25 December 2002 (25.12.2002)
International Patent Classification (IPC) or national classification and IPC C22C 33/02, 45/02, B22F 3/14, 9/08, H01F 1/22		
Applicant JAPAN SCIENCE AND TECHNOLOGY AGENCY		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 10 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 26 July 2004 (26.07.2004)	Date of completion of this report 10 December 20.04 (10.12.20.04)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/016542

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:

pages _____ 1, 2, 5, 6, 8, 10-20 _____, as originally filed/furnished
pages* _____ 3, 3/1, 4, 4/1, 7, 7/1, 9 _____ received by this Authority on _____ 26 July 2004 (26.07.2004)
pages* _____ received by this Authority on _____

☒ the claims:

pages _____ 3, 6 _____, as originally filed/furnished
pages* _____, as amended (together with any statement) under Article 19
pages* _____ 4, 5 _____ received by this Authority on _____ 26 July 2004 (26.07.2004)
pages* _____ 1, 2 _____ received by this Authority on _____ 08 November 2004 (08.11.2004)

☒ the drawings:

pages _____ 1-8 _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/16542

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	2-6	YES
	Claim	1	NO
Inventive step (IS)	Claims		YES
	Claims	1-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 2001-338808, A (Alps Electric Co., Ltd.), December 7, 2001 (12.07.01)

Document 2: Baolong Shen et. al, "Preparation of Fe₆₅Co₁₀GaP₁₂C₄B₄ Bulk Glass Alloy with Good Soft Magnet Properties by Spark-plasma Sintering of Glassy Powder" Materials Transactions Vol. 43, No. 8, 2002 August

Claim 1

The invention relating to claim 1 does not appear to be novel or involve an inventive step based on document 1 cited in the ISR. Document 1 (indicated sections and column 37, lines 19-22) describes sintering soft magnetic metallic glass powder having a composition and particle diameter partly the same as that of claim 1 of the present application, and forming a bulk shape after sintering is obvious. Also, there is no substantial difference based on having confirmed physical-properties values existing in metallic glass such as crystallization temperature and liquidus temperature.

Claim 2

The invention relating to claim 2 does not appear to involve an inventive step based on document 1 cited in the ISR and document 2.

Document 1 (indicated sections) describes setting a sintering temperature of no more than 573K, which at 573K overlaps with the range between at least 573K and no more than a crystallization starting temperature; however, it differs from claim 2 in that it does not describe the relative density at time of sintering. However, selecting sintered density is described in document 2 (indicated sections), which shares the technical field of metallic glass with document 1, and this could be easily conceived of by a party skilled in the art.

Also, there is no substantial difference based on having confirmed the physical-properties values normally required for a soft magnetic material such as retention and specific resistance.

Claim 4

The invention relating to claim 4 does not appear to involve an inventive step based on document 1 cited in the ISR and document 2.

Document 1 (indicated sections) also describes producing particles by atomization.

Claim 5

The invention relating to claim 5 does not appear to involve an inventive step based on document 1 cited in the ISR and document 2.

Document 2 (indicated sections) describes the temperature rise rate at time of discharge plasma sintering.

Claims 3 and 6

The inventions relating to claims 3 and 6 do not appear to involve an inventive step based on document 1 cited in the ISR and document 2.

Document 1 (indicated sections) also describes heat treatment temperature after sintering.